

Amended Claims

Please replace the claims with the listing below, which supercedes and replaces all prior listings of claims.

1. A system for process control, comprising
 - A. a network,
 - B. a server digital data processor coupled to the network and to a process control apparatus, the server digital data processor including a command processor for transferring information between the network and the process control apparatus,
 - C. a client digital data processor coupled to the network, the client digital data processor comprising an information client for establishing communications with the server digital data processor over the network, generating and transmitting to the server digital data processor a request for an applet, receiving an applet from the server, and defining a virtual machine environment for execution thereof,
 - D. the client digital data processor executing the applet within the virtual machine environment, the applet configuring the client digital data processor as a process controller for establishing communications over the network with the command processor and for at least one of monitoring and controlling the process control apparatus via those communications.

Claims 2 – 48 (cancelled)

49. (New) A system for remote process control, comprising

- A. a server digital data processor and a client digital data processor coupled to one another by a network that comprises at least one of an Intranet and Internet,
- B. the server digital data processor being coupled to a process control apparatus and comprising (i) an information server for transferring information with the network and (ii) a command processor for transferring information between the network and the process control apparatus, said process control apparatus comprising control/sensing devices to monitor

- and/or control a process, the command processor providing services for access to information regarding the process control apparatus,
- C. the client digital data processor comprising a web browser for defining a virtual machine environment,
 - D. the information server selectively transfers a JAVA applet to the information client,
 - E. the client digital data processor executes a JAVA applet within the virtual machine environment, the JAVA applet configuring the client digital data processor as a process controller for
 - establishing communications over the network with the command processor,
 - generating and transmitting, over the network, requests for services provided by the command processor in order to at least one of remotely monitor and remotely control the process control apparatus.
50. (New) A method for process control, comprising the steps of
- A. defining on a client digital data processor a virtual machine environment for execution of an applet received from the server digital data processor,
 - B. executing a command processor on a server digital data processor, the server digital data processor being coupled to a network and to a process control apparatus, the command processor for transferring information between the network and the process control apparatus, said process control apparatus comprising control/sensing devices to monitor and/or control a process, the command processor providing services for access to information regarding the process control apparatus,
 - C. executing an applet within the virtual machine environment to establish communications over the network between the applet and the command processor, and to effect a transfer of information between the applet and the command processor for at least one of monitoring and controlling the process control apparatus, the information including requests generated by the applet for services provided by the command processor in order to at least one of monitor and control the process control apparatus.

51. (New) A method according to claim 50, comprising the steps of selectively transferring the applet over the network from the server digital data processor to the client digital data processor for execution within the virtual environment defined thereby.

52. (New) A method according to claim 50, comprising the steps of

- A. transferring commands over the network from the applet to the command processor for effecting a transfer of information regarding a status of the process control apparatus, and
- B. responding to such commands for generating information on the status of the process control apparatus and transferring that information over the network from the command processor to the process controller.

53. (New) A method according to claim 52, comprising the step of responding to changes in the status of the process control apparatus for transferring information with respect thereto over the network from the command processor to the process controller.

54. (New) A method according to any one of claims 51 and 52, comprising the step of generating a display representative of the status of the process control apparatus.

55. (New) A method according to claim 50, comprising the steps of

- A. executing a information server on the server digital data processor,
- B. executing an information client on the client digital data processor for establishing communications over the network with the and the information server.

56. (New) A method according to claim 55, comprising the step of selectively transferring the applet over the network from the information server to the information client for execution within the virtual environment defined thereby.

57. (New) A method according to claim 56, comprising the steps of

- A. transferring hypertext markup language (HTML) information referencing the applet over the network from the information server to the information client,

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- B. generating, with the information client, a display based on the HTML information transferred from the information server, and
 - C. responding to a user command in response to such display for selectively transferring a request for the applet from the information client to the information server.
58. (New) A method according to claim 50, comprising the step of using an Intranet and Internet as at least a portion of the network.
59. (New) A method according to claim 50, comprising the step of executing as the applet at least one of JAVA bytecode and an intermediate code for interpretation within the virtual machine environment that is hardware-independent, operating system-independent and windows system-independent.
60. (New) A method according to claim 50, comprising the steps of
- A. executing a JAVA application on the server digital data processor to transfer information at least one of to and from the network,
 - B. executing a non-JAVA application program interface (API) on the server digital data processor for transferring information at least one of to and from the process control apparatus,
 - C. executing a JAVA/API application on the server digital data processor for transferring information between the JAVA application and the API.
61. (New) A method for process control, comprising the steps of
- A. executing a web browser on a client digital data processor to define a virtual machine environment, the client digital data processor being coupled to a network,
 - B. executing a command processor on a server digital data processor, the server digital data processor being coupled to a network and to a process control apparatus, the command processor for transferring with the command processor information between the network and the process control apparatus, the network comprising any of an Intranet and Internet,

- the command processor providing services for access to information regarding the process control apparatus,
- C. transferring a JAVA applet over the network from the server digital data processor to the web browser,
- D. executing the JAVA applet within the virtual machine environment
- to establish communications over the network between the applet and the command processor, and
- to effect a transfer of information between the applet and the command processor for at least one of monitoring and controlling the process control apparatus, the information including requests generated by the applet for services provided by the command processor in order to at least one of monitor and control the process control apparatus.

62. (New) A system for process control, comprising

- A. a digital data processor coupled to a process control apparatus, said process control apparatus comprising control/sensing devices to monitor and/or control a process,
- B. the digital data processor comprising a command processor for providing services for access to information regarding the process control apparatus,
- C. the digital data processor comprising a platform-independent virtual machine environment, and
- D. the digital data processor executing an applet within the virtual machine environment, the applet configuring the digital data processor as a process controller for generating requests for services provided by the command processor in order to at least one of monitor and control the process control apparatus.

63. (New) A system for process control, comprising

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- A. a first digital data processor executing a JAVA applet within a virtual machine environment,
- B. a command processor in communication coupling with a process control apparatus and with the first digital data processor, the command processor providing services for access to information regarding the process control apparatus, the process control apparatus comprising control/sensing devices to monitor and/or control a process,
- C. the JAVA applet configuring the digital data processor to generate a message requesting services provided by the command processor in order to at least one of monitor and control the process control apparatus, at least one service including invoking a method in connection with at least one of monitoring and controlling a process control apparatus, and
- D. the command processor being coupled to an object manager that executes the method.

64. (New) A system according to claim 63, wherein

- A. the JAVA applet configures the digital data processor to generate a message for accessing information concerning the process control apparatus, and
- B. the command processor responds to that message for (i) invoking the method to access the such information, and (ii) generating a message to supply that information to the JAVA applet.

65. (New) A system according to claim 64, comprising an information client executing on the first digital data processor, the information client configuring the first digital data processor to request and receive the JAVA applet for execution within the virtual machine environment.

66. (New) A system according to claim 63, wherein the process control apparatus is disposed remotely with respect to the first digital data processor.

67. (New) A system according to claim 63, comprising

- A. a second digital data processor coupled to the process control apparatus, and

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B. a network, coupled to the first and second digital data processors for transferring messages therebetween.

68. (New) A method for process control, comprising

- A. defining on a first digital data processor a virtual machine environment and executing a JAVA applet therein,
- B. generating with the JAVA applet a message to a command processor requesting services provided thereby to at least one of monitor and control a process control apparatus, at least one such service including invoking a method in connection with at least one of monitoring and controlling a process control apparatus, the command processor providing services for access to information regarding the process control apparatus, and
- C. responding to that invocation with an object manager that executes the method.

69. (New) A method according to claim 68, comprising

- A. generating with the JAVA applet a message for accessing information concerning the process control apparatus, and
- B. responding to that message with the command processor by (i) invoking the method to access the such information, and (ii) generating a message to supply that information to the JAVA applet.

70. (New) A method according to claim 69, comprising the step of configuring the first digital data processor as an information client for requesting and receiving the JAVA applet from an information server.

71. (New) A method according to claim 70, comprising the step of executing the information server on a second digital data processor.

72. (New) A method according to claim 68, comprising the step of disposing the process control apparatus remotely with respect to the first digital data processor.